Ultrasound Guided Compression for Iatrogenic Femoral Artery Pseudo Aneurysms

To the Editor:

Despite increasing use of radial artery for percutaneous interventions, femoral artery is still commonly used for both diagnostic and therapeutic interventions. Decreased size of sheats is the principal mechanism underlying reduced complication rates for femoral artery interventions. The most common access—related complications after femoral artery interventions are pseudoaneurysms, hematoma, arteriovenous fistula, and retroperitoneal hemorrhage.

Pseudoaneurysms are frequently due to lower puncture below the common femoral artery bifurcation. The frequency is reported between 0.2% after diagnostic procedures and nearly 8% after interventional procedures.[1]

In our institution, we perform nearly 2,400 diagnostic and interventional procedures using femoral access. In the last 2 years, we experienced 16 cases of femoral pseudoaneurysms following femoral access. This makes nearly 0.003%. We did not perform routine ultrasonography, and thus, this ratio is not comparable to other studies. What we would like to underscore is 15 out of 16 cases (93.7%) were successfully treated with ultrasound-guided compression and only 1 patient underwent surgery who had a 25-mm pseudoaneurysm. Minimal and maximal duration of compression was 15 min and 3 hr, respectively. Before compression, intravenous line was established, skin was sterilized, and topical lidocaine was applied in order to reduce pain.

Ultrasound-guided thrombin injection is another alternative method for treatment of femoral artery pseudoaneurysms. By using both manual compression and ultrasound-guided thrombin injection, Dzijan-Horn et al.[2] reported a success rate of 97.2%. In their series, only 10 patients out of 432 pseudoaneurysm cases (2.3%) needed surgical intervention.

In conclusion, ultrasound-guided compression is still an effective method for the treatment of iatrogenic femoral artery pseudoaneurysms.

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Changes in Arterial Stiffness and N-Terminal Pro-Brain Natriuretic Peptide Levels after Endovascular Repair of Descending Thoracic Aorta

Dear Editor,

We read with great interest a recent article by Moulakakis et al.[1] entitled ''Changes in arterial stiffness and N-terminal pro-brain natriuretic peptide levels after endovascular repair of descending thoracic aorta.'' In this prospective study, the authors aimed to investigate changes in arterial stiffness and N-terminal pro-brain natriuretic peptide (NT-proBNP) levels in patients undergoing endovascular repair of descending thoracic aorta. The authors measured serum levels of NT-proBNP preoperatively, 24 hr, 48 hr, and 6 months postoperatively. In addition, they evaluated pulse wave velocity (PWV) before and 6 months after endovascular repair of descending thoracic aorta. As stated in statistical analysis section and abstract of the article, the authors used 1-way analysis of variance (ANOVA) to assess alteration in PWV (from baseline to 6 months) and NT-proBNP (between 4 phases of measurement). Indeed, they evaluated some numerical variables in 1 sample of patients during different time points including baseline, 24 hr, 48 hr, and 6 months after endovascular repair. Since they investigated 1 same sample of patients during different time points (i.e., baseline, 24 hr, 48 hr, and 6 months), their measurements are completely dependent.[2—4] One-way ANOVA is used for comparison of the means of more than 2 independent groups.[5—8] Therefore, after assessment of the normal distribution of studied quantitative variables including NT-proBNP and PWV, the authors must use repeated-measures ANOVA or Friedman test for comparison of the means of each variable at baseline, 24 hr, 48 hr, and 6 months after endovascular repair.[9,10] Furthermore, they must use Wilcoxon test and paired *t* test for comparison of NT-proBNP and PWV between 2 time points of measurement.

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